

Claims

1. A multiple coin actuation mechanism for a vending machine, comprising:

5 (a) a front cover plate adapted to be fixedly attached to a vending machine, said front cover plate having a periphery and first and second coin slots defined in said periphery at locations angularly spaced apart from one another;

10 (b) a carrier wheel mounted for rotation relative to said front cover plate and having a front side facing toward said front cover plate and a rear side facing away from said front cover plate, said carrier wheel also having first and second coin recesses defined on said rear side of said carrier wheel at positions angularly spaced apart from one another and aligned with said first and second coin
15 slots of said cover plate when said carrier wheel is in an initial home position at which a user can initially deposit first and second coins into said first and second coin recesses through said first and second coin slots;

20 (c) a rear retainer plate fixedly attached to said front cover plate and at least partially overlying said carrier wheel at said rear side thereof;

(d) means for engaging said carrier wheel within said first and second coin recesses on said rear side of said carrier wheel and cooperating with said first and second
25 coin recesses to prevent rotation of said carrier wheel away from said initial home position through a complete dispensing cycle unless first and second coins have been deposited into said first and second coin recesses; and

(e) means for allowing insertion of the first coin
30 through said first coin slot of said front cover plate and into said first coin recess of said carrier plate and also for preventing removal of the second coin from said second coin recess of said carrier wheel through said first coin slot of said front cover plate when said carrier wheel has
35 been rotated sufficiently to align said second coin recess

of said carrier wheel with said first coin slot of said front cover plate as said carrier wheel is rotated from said initial home position to a final dispensing position through said complete dispensing cycle such that during
40 said rotation of said carrier wheel said means for engaging said carrier wheel will not engage within said first and coin recesses of said carrier wheel such that said rotation of said carrier wheel will result in the deposited first and second coins successively exiting from said carrier
45 wheel at said discharge location.

2. The actuation mechanism of claim 1 wherein said means for allowing insertion of the first coin includes a coin removal blocking latch pivotally mounted on said front cover plate adjacent to said first coin slot.

3. The actuation mechanism of claim 2 wherein said means for allowing insertion of the first coin also includes a stud fixedly attached on and extending outwardly from said front cover plate adjacent to said first coin
5 slot such that said pivotal latch is pivotally mounted about said stud.

4. The actuation mechanism of claim 3 wherein said means for allowing insertion of the first coin further includes a coil spring having opposite ends engaging respective adjacent portions of said front cover plate and
5 said pivotal latch so as to bias said pivotal latch to an initial outer position such that when said carrier wheel is at said initial home position insertion of the first coin through said first coin slot will engage and cause said pivotal latch to pivotally move against the bias of said
10 coil spring toward said first coin slot.

5. The actuation mechanism of claim 2 wherein said means for allowing insertion of the first coin further includes an edge notch defined adjacent to one side of said

first coin recess in said carrier wheel such that said coin
5 removal blocking latch can pivotally move from an initial
outer position to a first inner position in which said
latch is disposed into said edge notch of said first coin
recess so as to allow initial insertion of the first coin
past said latch and through said first coin slot into said
10 first coin recess whereas once said carrier wheel has
rotated to a position which places the second coin and said
second coin recess in alignment with the first coin slot
said latch can only pivot to a second inner position in
which said latch engages the second coin and thus prevents
15 removal of the second coin from said second coin recess
past said latch through said first coin slot, said latch
also at said outer first position being retained across the
path of the second coin from said second coin recess
through said first coin slot so as to prevent the removal
20 of the second coin from said first coin slot.

6. The actuation mechanism of claim 1 wherein said
carrier wheel having said coin recesses of predetermined
widths for receiving first and second coins is replaceable
with another carrier wheel identical thereto except for a
5 change in the width of one or both of said coin recesses in
order to accommodate a different number of coins in one or
both of said coin recesses.

7. The actuation mechanism of claim 1 further
comprising:

a shaft extending through said front cover plate,
carrier wheel and rear retainer plate and having a forward
5 end disposed at an exterior side of said front cover plate
and a rearward end disposed at an exterior side of said
rear retainer plate; and

a handle disposed adjacent to said exterior side of
said front cover plate and fixedly attached on said forward
10 end of said shaft such that said handle may be turned by a
user to rotate said shaft and said carrier wheel therewith

away from said initial home position through said complete dispensing cycle.

8. The actuation mechanism of claim 7 further comprising:

a ratchet device including a ratchet wheel fixedly mounted to said rearward end of said shaft and a spring-loaded pawl pivotally mounted to said rear retainer plate adjacent to said ratchet wheel so as to engage in succession notches defined about said ratchet wheel such that said handle, shaft, ratchet wheel and carrier wheel can only be rotated in one direction once said shaft has rotated sufficiently to bring said pawl into engagement with a first of said notches on said ratchet wheel which then prevents reverse rotation of said handle, shaft, ratchet wheel and carrier wheel.

9. The actuation mechanism of claim 1 wherein said means for engaging said carrier wheel includes first and second detents movably mounted to said rear retainer plate and adapted to engage into said first and second coin recesses, said detents also adapted to will ride over the first and second coins when deposited in said first and second coin recesses and thus not engage within said first and coin recesses of said carrier wheel when the first and second coins are deposited therein.

10. A multiple coin actuation mechanism for a vending machine, comprising:

- (a) a front cover plate adapted to be fixedly attached to a vending machine, said front cover plate having a periphery and first and second coin slots defined in said periphery at locations angularly spaced apart from one another;
- (b) a carrier wheel mounted for rotation relative to said front cover plate and having a front side facing toward said front cover plate and a rear side facing away

from said front cover plate, said carrier wheel also having first and second coin recesses defined on said rear side of said carrier wheel at positions angularly spaced apart from one another and aligned with said first and second coin slots of said cover plate when said carrier wheel is in an initial home position at which a user can initially deposit first and second coins into said first and second coin recesses through said first and second coin slots, said carrier wheel having said coin recesses of predetermined widths for receiving the first and second coins being replaceable with another carrier wheel identical thereto except for a change in the width of one or both of said coin recesses in order to accommodate a different number of coins in one or both of said coin recesses;

(c) a rear retainer plate fixedly attached to said front cover plate and at least partially overlying said carrier wheel at said rear side thereof; and

(d) first and second detents movably mounted to said rear retainer plate so as to engage said carrier wheel within said first and second coin recesses on said rear side of said carrier wheel and cooperate with said first and second coin recesses to prevent rotation of said carrier wheel away from said initial home position through a complete dispensing cycle unless first and second coins have been deposited into said first and second coin recesses.